

---

# Longing for Ex-Partners out of Fear of Being Single

Journal of Personality 00:00, Month 2015  
© 2015 Wiley Periodicals, Inc.  
DOI: 10.1111/jopy.12222

Stephanie S. Spielmann,<sup>1</sup> Geoff MacDonald,<sup>2</sup>  
Samantha Joel,<sup>2</sup> and Emily A. Impett<sup>3</sup>

<sup>1</sup>Wayne State University

<sup>2</sup>University of Toronto

<sup>3</sup>University of Toronto Mississauga

## Abstract

This research investigated whether people who fear being single have a more difficult time letting go of ex-partners following a romantic breakup. Data were collected in a cross-sectional study ( $N = 209$ , 64% women,  $M_{\text{age}} = 30$  years old) as well as a 1-month daily experience study of individuals who just went through a romantic breakup ( $N = 117$ , 44% women,  $M_{\text{age}} = 27$  years old). Findings from both studies revealed that those with stronger fear of being single (Spielmann et al., 2013) reported greater longing for their ex-partners. Pre- to post-breakup analyses revealed that fear of being single increased after a breakup, regardless of who initiated the breakup. Within-day analyses revealed that longing for an ex-partner and attempts to renew the relationship were greater on days with stronger fear of being single. Lagged-day analyses provided support for the conclusion that fear of being single increased longing and renewal attempts over time, but longing and renewal attempts did not influence fear of being single. These findings suggest that fear of being single is a particularly useful construct for understanding the romantic detachment process.

Do fears about being single drive people to pine after and pursue ex-partners? For someone afraid of being single—defined as concern, anxiety, or distress regarding the current or prospective experience of being without a romantic partner (Spielmann et al., 2013)—the end of a romantic relationship brings about the exact scenario that person fears. Most people experience some degree of difficulty coping with the end of a romantic relationship, but breakups might be particularly difficult to cope with for those uncomfortable with being single. Breakups are often accompanied by negative affect (Mearns, 1991; Sbarra & Emery, 2005; Sprecher, Felmlee, Metts, Fehr, & Vanni, 1998), depression (Monroe, Rohde, Seeley, & Lewinsohn, 1999), continued feelings of love and longing for ex-partners (Frazier & Cook, 1993; Sbarra, 2006), and desires to renew the ended relationship (Barbara & Dion, 2000; Davis, Shaver, & Vernon, 2003; Spielmann, MacDonald, & Tackett, 2012). Experiencing sustained feelings of love and longing for an ex-partner and attempting to renew the relationship have the potential to create at least a symbolic sense of connection that can stave off the need to accept that the relationship is over. However, these behaviors tend to have negative consequences, such as prolonged anger and sadness (Davis et al., 2003; Sbarra, 2006; Sbarra & Emery, 2005), as well as poorer breakup adjustment (Frazier & Cook, 1993). Furthermore, it is often more insecure individuals, such as those with an anxious attachment style, who

have the greatest difficulty getting over ex-partners (Fagundes, 2012; Sbarra, 2006; Spielmann, MacDonald, & Wilson, 2009).

Until recently, the field of relationship science has overlooked how the regulation of emotions and behaviors in romantic relationships is motivated by perceived threats about being single. Past research has largely focused on the relationship dynamics of more general relational insecurities, such as anxious attachment and low self-esteem. Emotional and behavioral regulation associated with anxious attachment and low self-esteem tend to be motivated by avoiding threats stemming from *within* one's relationships, such as hurt feelings, criticism, and rejection from one's partner. For instance, individuals with anxious attachment and low self-esteem tend to be hypersensitive to risks of rejection within their relationships (Mikulincer, Gillath, & Shaver, 2002; Murray, Rose, Bellavia, Holmes, & Kusche, 2002; Spielmann et al., 2012) and experience greater distress and hurt feelings in response to risks of rejection (Campbell, Simpson, Boldry, & Kashy, 2005; Overall, Girme, Lemay, & Hammond, 2014). As a consequence, anxious attachment and

---

The authors would like to thank Laura De Santis and Angela Zhang for their research assistance.

Correspondence concerning this article should be addressed to Stephanie S. Spielmann, Department of Psychology, Wayne State University, 5057 Woodward Avenue, Detroit, MI 48202. Email: spielmann@wayne.edu.

low self-esteem predict behaviors such as relationship withdrawal and partner derogation motivated by self-protection (e.g., Murray, Holmes, & Collins, 2006; Murray, Holmes, MacDonald, & Ellsworth, 1998). Similarly, while prominent theories regarding relationship dynamics, such as interdependence theory (Kelley & Thibaut, 1978) and the investment model (Rusbult, Martz, & Agnew, 1998), have considered the role of people's concerns about being single, the conceptualizations of singlehood within these theories represent threats stemming from *within* the current relationship. For instance, these theories have considered concerns about becoming single as they reflect the loss of one's current partner or the loss of an interdependent relationship, as well as concerns that being single may or may not be a more appealing alternative than remaining in a dissatisfying relationship.

However, past work on regulatory motives in relationships has not addressed how people regulate their emotional and behavioral responses based on threats stemming from *not* having a romantic partner and concerns specific to the experience of singlehood, such as loneliness and social judgment. Therefore, there remains a gap in the theoretical understanding of motivational concerns within the context of close relationships. Whereas work on anxious attachment, low self-esteem, and relational interdependence can be framed as focusing on relationship negativity or risks stemming from within one's relationship, the regulatory focus motivated by the goal of avoiding being alone appears to be associated with greater tolerance for relational negativity and dissatisfying relational contexts. For instance, people with stronger fear of being single tend to remain dependent in dissatisfying relationships and are less likely to initiate the dissolution of dissatisfying relationships (Spielmann et al., 2013). Furthermore, people with stronger fear of being single tend to engage in undiscerning mate selection strategies, such that they are interested in initiating relationships with unresponsive and unattractive dating prospects (Spielmann et al., 2013). We suggest that fear of being single may similarly predict emotional and behavioral pursuit of ex-partners following a breakup as another instantiation of tolerance of dissatisfying relationship contexts motivated by the desire to avoid being alone.

Past research on fear of being single has demonstrated that fear of being single is a construct that is both theoretically and statistically distinct from many commonly used measures of personality, such as neuroticism and attachment style, as well as from measures of social sensitivity, such as rejection sensitivity, need to belong, loneliness, hurt feelings proneness, depression, and relationship-contingent self-esteem. The most in-depth theoretical and statistical distinctions have focused on anxious attachment, and this work has demonstrated that fear of being single has unique predictive effects on relational processes such as relationship initiation and maintenance, above and beyond anxious attachment (Spielmann et al., 2013). It is likely, therefore, that fear of being single would also be a unique predictor of emotional and behavioral responses to relationship dissolution, above and beyond anxious attachment, particularly because

such newfound singlehood is the primary concern for those who fear being single. The present research aims to contribute to a greater theoretical understanding of the distinct motivational concerns underlying fear of being single and anxious attachment by distinguishing the unique effects of each construct on the emotional and behavioral responses to romantic breakups. We test the hypothesis that, over and above the effects of anxious attachment, those who fear being single may be particularly prone to coping with the difficulty of breakups by maintaining emotional attachments to ex-partners and attempting to renew ended relationships.

In the present research, we first used a cross-sectional design (Study 1) to test whether there was an association between fear of being single and longing for ex-partners, above and beyond anxious attachment. Next, in Study 2, we conducted a longitudinal study in which participants in relationships were tracked over time until they experienced a breakup, and then they participated in a 1-month daily experience study about their breakup experiences. We tested pre- to post-breakup changes in fear of being single, as well as longitudinal effects of fear of being single on longing for, and pursuit of, ex-partners over the course of the month immediately following the breakup. Overall, we expected that fear of being single would be a unique predictor of greater emotional attachment to ex-partners and increased attempts to renew the ended relationship.

## STUDY 1

To provide an initial test of our predictions that stronger fear of being single would predict greater emotional attachment to ex-partners, we conducted a cross-sectional study in which participants reported their fear of being single, attachment anxiety, and emotional attachment to their most recent ex-partner.

### Method

**Participants.** Using Amazon's Mechanical Turk, we recruited 229 single individuals who had previously experienced a romantic breakup. Nineteen participants were excluded for response sets identified by reverse-scored items. This proportion is consistent with recent research suggesting that 10–12% of respondents in this format of data collection can be classified as careless responders (Meade & Craig, 2012). Our final sample included 209 participants (133 women, 73 men, 3 unidentified), ranging in age from 18 to 78 years old ( $M = 30.91$ ,  $SD = 11.77$ ). A post hoc power analysis revealed that this sample size provides power of 70% to detect the effect sizes reported below.

**Measures.** We measured fear of being single with the measure developed by Spielmann et al. (2013). Participants responded to six items, such as "I feel anxious when I think about being single forever," on a scale ranging from 1 (*not at all true*) to 5 (*very true*;  $M = 2.77$ ,  $SD = 1.06$ ,  $\alpha = .85$ ). In order to distinguish the effects of fear of being single from more general interpersonal

**Table 1** Study 1: Correlations Between Variables

	1	2	3	4	5	6
1. Fear of being single	—	.55***	.17*	-.05	-.07	-.12+
2. Anxious attachment		—	.11	.07	-.11	-.21**
3. Emotional attachment to ex-partner			—	-.15*	.09	-.39***
4. Time since breakup				—	.30***	.03
5. Length of relationship					—	.04
6. Breakup initiator						—

Note. \*\*\* $p < .001$ . \*\* $p < .01$ . \* $p < .05$ . + $p < .10$ .

insecurities, we measured anxious attachment with the subscale of the Attachment Style Questionnaire (ASQ; Feeney, Noller, & Hanrahan, 1994). Participants responded to 13 items, such as “I find that others are reluctant to get as close as I would like,” on a scale ranging from 1 (*totally disagree*) to 6 (*totally agree*;  $M = 3.30$ ,  $SD = .83$ ,  $\alpha = .89$ ). Participants reported the details of their most recent breakup, including length of time since breakup (range = less than 1 month to 192 months prior to the study,  $M = 17.23$  months,  $SD = 26.72$ ) and length of last relationship (range = less than 1 month to 200 months,  $M = 26.12$  months,  $SD = 34.88$ ). They also indicated who initiated the breakup on a scale ranging from 1 (*my partner's decision*) to 3 (*completely mutual*) to 5 (*my decision*;  $M = 3.01$ ,  $SD = 1.34$ ). Finally, participants completed a measure of their continued emotional attachment to the ex-partner (Spielmann et al., 2009; Wegner & Gold, 1995) with four items such as “I am still in love with him/her,” rated on a scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*;  $M = 2.30$ ,  $SD = 1.20$ ,  $\alpha = .89$ ). Correlations between variables in Study 1 are presented in Table 1.

## Results and Discussion

A simple linear regression analysis without covariates confirmed our hypothesis that stronger fear of being single predicted greater emotional attachment to ex-partners,  $\beta = .17$ ,  $p = .01$ ,  $B = .20$ , 95%  $CI_B$  [.044, .350]. In order to ensure that predictive effects of fear of being single on longing for ex-partners were not confounded with factors related to the breakup experience, we next applied a data-driven approach to select relevant covariates by examining the correlations of time since the breakup, length of the past relationship, and breakup initiator status with emotional attachment to the ex-partner. This analysis revealed that emotional attachment to the ex-partner was negatively correlated with time since the breakup,  $r(207) = -.15$ ,  $p = .03$ , and breakup initiator status,  $r(207) = -.39$ ,  $p < .001$ , but was not significantly correlated with the length of the past relationship,  $r(207) = .09$ ,  $p = .21$ . Therefore, time since the breakup and breakup initiator status were included as covariates in all analyses. Furthermore, anxious attachment was included as a covariate to distinguish the unique effects of anxious attachment and fear of being single. A multiple regression analysis revealed that fear of being single remained a significant positive predictor of emotional attachment to ex-partners when accounting for these

covariates in the model,  $\beta = .16$ ,  $p = .04$ ,  $B = .18$ , 95%  $CI_B$  [.007, .348].<sup>1</sup>

The effect of fear of being single on emotional attachment to ex-partners also remained significant when including participant sex as a moderator (male = 1, female = 0) in a hierarchical regression model,  $\beta = .17$ ,  $p = .03$ ,  $B = .20$ , 95%  $CI_B$  [.020, .389]. Participant sex was not a significant predictor of emotional attachment to ex-partners,  $\beta = .05$ ,  $p = .44$ ,  $B = .13$ , 95%  $CI_B$  [-.202, .460], and sex did not moderate the effect of fear of being single on emotional attachment to ex-partners,  $\beta = -.04$ ,  $p = .66$ ,  $B = -.07$ , 95%  $CI_B$  [-.402, .254]. The null effects of participant sex were consistent across studies and will therefore not be discussed further.

The results of Study 1 supported our hypothesis that stronger fear of being single predicts greater longing for ex-partners, even when accounting for more general insecurities, such as anxious attachment, as well as features of the breakup experience, such as who initiated the breakup and the passage of time since the breakup. These data laid the groundwork for Study 2, a longitudinal daily experience study assessing daily fears about being single and longing for an ex-partner immediately after a breakup. Daily experiences in the wake of a breakup may affect the salience of fears about being single, creating variability in the strength of such fears from day to day. While fear of being single has previously been conceptualized at the trait level (Spielmann et al., 2013), individuals may experience fluctuations from day to day around their typical responding (e.g., Fleenon, 2001; Fraley, 2002). Such daily variation in fear of being single should be associated with corresponding variation in longing for ex-partners. With this longitudinal design, we aimed to replicate the association between fear of being single and longing for ex-partners from Study 1 at a daily level and also assess the directionality of effects over time. Furthermore, in several cases, participants in Study 1 considered an ex-partner from a relationship that had ended several months, and sometimes years, prior to participation in the study. This highlights that fear of being single may have quite a robust effect on longing for ex-partners, to reveal associations even when considering ex-partners so distant in the past. However, examining only relationships from the distant past constrains our understanding of the immediate effects of fear of being single on desires to pursue and renew relationships with an ex-partner. Therefore, the breakup-contingent design of Study 2 allowed for timely data collection in the immediate wake of a breakup such that we could examine actual relationship renewal attempts in a manner that was not possible in Study 1.

## STUDY 2

Study 2 was a daily experience study in which we tracked participants over the month immediately following a romantic breakup. A sample of people in relationships was tracked on a weekly basis, and if participants reported that their relationship ended, they were invited to participate in the second component

of the study. Newly single participants completed an initial post-breakup survey and then reported their daily fear of being single, longing for their ex-partner, and their behavioral attempts to renew the relationship with their ex over the course of 27 days. We hypothesized that within-day, stronger fear of being single would predict greater longing for an ex-partner and greater likelihood of attempting to renew the ended relationship. Furthermore, because fear of being single should motivate regulation of emotional and behavioral responses aimed at avoiding the threats of being alone, we hypothesized that fear of being single would promote increased longing for ex-partners and relationship renewal attempts from one day to the next. An exploratory question, however, was whether such emotional and behavioral regulation strategies were in turn effective for alleviating concerns about being single. In other words, do people long for and pursue ex-partners because it helps them feel better about their prospects of changing their current single status? We therefore also tested the reverse lagged-day models to determine whether daily emotional attachment to ex-partners or attempted relationship renewals promoted change in fear of being single from one day to the next.

Our unique breakup-contingent design also allowed us to conduct an important test of the distinction between fear of being single and anxious attachment. Regardless of who initiates a breakup, experiencing a breakup should heighten the salience of threats of not being in a relationship. Thus, we tested for changes in fear of being single from pre- to post-breakup. Next, we examined the effect of breakup initiator status on changes in anxious attachment. Because general anxious concern over rejection should be more strongly tied to being rejected by a relationship partner, we hypothesized that only those who experienced romantic rejection in the form of a partner-initiated breakup should experience an increase in anxious attachment pre- to post-breakup.

## Method

**Participants and Procedure.** Participants were recruited through a psychology undergraduate participant pool and on the Internet through Mechanical Turk. A total of 1,242 participants in relationships completed a background survey and then responded to a weekly email regarding the status of their relationship (still together vs. broken up). Participants responded to our emails for an average of 10 weeks (range = 1–29 weeks). Out of those participants, 226 reported breaking up over the course of the study. Participants who reported a breakup were subsequently invited to participate in a post-breakup survey, followed by a 27-day daily experience study about their thoughts and feelings about their ex-partner. A total of 135 newly single participants agreed to participate in the daily diary study. The final sample size was based on a convenience sample of those who broke up and agreed to participate. All data collection was completed prior to conducting analyses. Eight participants were excluded for reporting a breakup more than a month prior to participation in the study (and therefore calling into question the

accuracy of their weekly email responses regarding their relationship status), and 10 participants were excluded from analyses for completing only one diary entry. The final sample included 117 participants (57 men, 52 women, 8 unidentified) ranging in age from 18 to 55 years old ( $M = 27.04$ ,  $SD = 9.18$ ). The response rate for the diary study ranged from 2 to 27 days ( $M = 17.34$  days,  $SD = 6.91$ ). Statistical power in multilevel models is most strongly influenced by the sample size at the highest level (Snijders, 2005). Sample size simulations have revealed that a sample greater than 50 at the highest level provides reliable estimates of the coefficients, variances, and standard errors in two-level models (Maas & Hox, 2005).

**Background Measures.** At the beginning of the study, while their relationship was still intact, participants completed the same Anxious Attachment subscale of the ASQ (Feeney et al., 1994;  $M = 3.46$ ,  $SD = .81$ ,  $\alpha = .86$ ) as in Study 1, as well as a revised version of the Fear of Being Single scale (Spielmann et al., 2013) phrased for those currently involved in romantic relationships (e.g., “If I were single, it would be close to being too late for me to find the love of my life”;  $M = 2.83$ ,  $SD = 1.02$ ,  $\alpha = .84$ ).

**Breakup Measures.** Participants’ relationships had ended between 1 day and 30 days prior to participation in the study ( $M = 8.42$  days,  $SD = 6.08$ ), and the relationships had lasted between less than 1 month and 168 months ( $M = 17.96$  months,  $SD = 22.30$ ). Participants indicated whether the breakup was partner initiated ( $n = 46$ ), a mutual decision between partners ( $n = 34$ ), or self-initiated ( $n = 35$ ), with two participants failing to report their breakup initiator status.<sup>2</sup> For simplicity of analyses, breakup initiator status was modeled as a continuous predictor ( $-1 =$  partner initiated,  $0 =$  mutual,  $1 =$  self-initiated). However, the pattern of results remains the same if two effect-coded variables were used.

As soon as they reported having broken up, participants once again reported their fear of being single using the same scale as in Study 1 (Spielmann et al., 2013;  $M = 3.04$ ,  $SD = 1.09$ ,  $\alpha = .87$ ) and the Anxious Attachment subscale of the ASQ (Feeney et al., 1994;  $M = 3.58$ ,  $SD = .80$ ,  $\alpha = .86$ ).

**Daily Experience Measures.** Participants completed a daily version of the Fear of Being Single scale (Spielmann et al., 2013), with the instructions “How true are the following statements for you TODAY?” ( $M = 2.51$ ,  $SD = 1.17$ , reliability of within-person change  $R_C = .87$ ). Participants also completed a daily measure of emotional attachment to the ex-partner using the same scale as in Study 1 (Spielmann et al., 2009; Wegner & Gold, 1995;  $M = 2.45$ ,  $SD = 1.20$ , reliability of within-person change  $R_C = .75$ ). Finally, on each day, participants reported their attempts to renew the relationship. Participants checked a box next to the item “I tried to get back together with my ex-partner.” In total, participants reported trying to renew their relationship on 59 out of a possible 1,947 total diary days, with a total of 18 different participants reporting a renewal attempt on at least one day.



**Table 2** Study 2: Pre- to Post-Breakup Changes in Fear of Being Single and Anxious Attachment as a Function of Breakup Initiator Status

	Fear of Being Single			Anxious Attachment		
	Estimate (SE)	<i>p</i>	95% CI	Estimate (SE)	<i>p</i>	95% CI
Level 1 (within person)						
Intercept	2.95 (.09)	< .001	[2.770, 3.127]	3.515 (.07)	< .001	[3.378, 3.652]
Time (-1 = pre-breakup, 1 = post-breakup)	.12 (.04)	.003	[.042, .201]	.07 (.03)	.03	[.005, .127]
Level 2 (between person)						
Breakup initiator	-.10 (.11)	.34	[-.317, .111]	-.03 (.08)	.75	[-.191, .138]
Cross-level interaction						
Breakup Initiator × Time	-.04 (.05)	.38	[-.137, .053]	-.09 (.04)	.02	[-.161, -.016]
Random Effects						
Residual	.35 (.04)	< .001	[.271, .461]	.21 (.03)	< .001	[.158, .270]
Intercept	.75 (.13)	< .001	[.536, 1.040]	.44 (.07)	< .001	[.318, .616]

## Results and Discussion

**Pre- to Post-Breakup Changes.** In order to test whether experiencing a breakup leads to concerns about being single becoming more salient, we examined within-person changes in fear of being single, as well as anxious attachment, from pre- to post-breakup. Hierarchical linear models were used to account for within-person changes with a continuous predictor.

With fear of being single as the dependent variable, time was entered as a Level 1 predictor (-1 = pre-breakup, 1 = post-breakup), and breakup initiator status (grand-mean centered) was entered as a main effect and moderator at Level 2. As can be seen in Table 2, this analysis revealed a significant main effect of time, such that participants' fear of being single post-breakup ( $M = 3.07$ ,  $SE = .10$ ) was higher than it had been pre-breakup ( $M = 2.83$ ,  $SE = .10$ ). Importantly, there was neither a significant main effect of breakup initiator status nor a significant moderation by breakup initiator status, suggesting that fear of being single was stronger following a breakup than before a breakup, regardless of who initiated the breakup.

Next, we conducted a similar set of analyses with anxious attachment as the dependent variable. As seen in Table 2, the main effect of breakup initiator status was not significant. There was a main effect of increase in anxious attachment pre- to post-breakup, which was qualified by a significant interaction between time and breakup initiator status. Simple effects tests revealed that only when the breakup was initiated by one's partner did participants experience an increase in anxious attachment pre- to post-breakup,  $b = .15$ ,  $SE = .05$ ,  $p = .002$ . Participants in mutually initiated breakups experienced a marginally significant increase in anxious attachment,  $b = .06$ ,  $SE = .03$ ,  $p = .06$ , whereas participants in self-initiated breakups did not experience an increase in anxious attachment,  $b = -.03$ ,  $SE = .04$ ,  $p = .46$ .

These analyses support the validity of the fear of being single construct as distinct from anxious attachment and being an important consideration during the breakup recovery process. Fear of being single increased after a breakup regardless of who initiated the breakup. Anxious attachment also increased after a

breakup, but consistent with the notion that this variable is tied to rejection concerns, only when one's partner initiated the breakup. It is important to note that while the increase in fear of being single pre- to post-breakup may reflect a heightened concern about singlehood after a breakup, it is also possible that it reflects an affective forecasting error among those in relationships. The pre-breakup measure of fear of being single prompted participants to consider their fears if they were hypothetically single. Therefore, it may be that those in relationships cannot fully appreciate how salient their concerns about singlehood will be once they actually experience a breakup. While we cannot fully disambiguate these alternative hypotheses with the present data, affective forecasting errors typically involve overestimation of the impact of emotional events, rather than underestimation (Eastwick, Finkel, Krishnamurti, & Loewenstein, 2008; Wilson & Gilbert, 2005).

**Variance Components Analysis.** Because this is the first occasion of fear of being single being tested longitudinally, an initial exploratory question was whether it is a construct that fluctuates within person from day to day. To test this, we conducted a variance components analysis by running an unconditional model with fear of being single as the dependent variable. This analysis revealed that 73.1% of the variance in fear of being single was explained by between-participant differences, variance estimate = 1.16,  $SE = .16$ ,  $p < .001$ , 95% CI [.884, 1.511], and 26.9% of the variance in fear of being single was represented by within-participant differences, variance estimate = .33,  $SE = .01$ ,  $p < .001$ , 95% CI [.313, .356]. These analyses suggest that although there is greater variation between than within people, there is still a meaningful degree of fluctuation within individuals' day-to-day feelings about being single. It is, therefore, reasonable to test within-person fear of being single as a meaningful predictor of other variables longitudinally.

**Within-Day and Lagged-Day Effects of Fear of Being Single.** We next tested whether daily fluctuations in fear of being single would be associated with corresponding fluctuations in longing for an ex-partner. Furthermore, we examined

**Table 3** Study 2: Within- and Lagged-Day Analyses of Emotional Attachment to the Ex-Partner and Fear of Being Single

	Emotional Attachment to Ex-Partner			Fear of Being Single		
	Estimate (SE)	<i>p</i>	95% CI	Estimate (SE)	<i>p</i>	95% CI
Level 1 (within person)						
Intercept	2.39 (.09)	< .001	[2.207, 2.576]	2.58 (.08)	< .001	[2.410, 2.742]
Today's fear of being single	.26 (.05)	< .001	[.165, .364]	—	—	—
Today's emotional attachment to ex-partner	—	—	—	-.27 (.05)	< .001	[-.366, -.172]
Yesterday's emotional attachment to ex-partner	.05 (.02)	.002	[.016, .076]	-.01 (.02)	.38	[-.047, .018]
Yesterday's fear of being single	.07 (.02)	.006	[.019, .117]	.33 (.02)	< .001	[.281, .377]
Level 2 (between person)						
Fear of being single	.43 (.10)	< .001	[.225, .630]	—	—	—
Emotional attachment to ex-partner	—	—	—	.36 (.08)	< .001	[.198, .530]
Anxious attachment	-.01 (.14)	.94	[-.284, .265]	.52 (.11)	< .001	[.294, .744]
Breakup initiator	-.36 (.11)	.002	[-.575, -.135]	.18 (.10)	.08	[-.024, .385]
Random effects						
Residual	.22 (.009)	< .001	[.206, .242]	.26 (.01)	< .001	[.241, .282]
Intercept	.89 (.13)	< .001	.669, 1.176	.71 (.10)	< .001	.531, .942
Today's fear of being single	.10 (.03)	.001	.054, .182	—	—	—
Today's emotional attachment to ex-partner	—	—	—	.09 (.03)	.002	.046, .165

the directionality of these associations over time. Does fear of being single predict increased longing for and pursuit of ex-partners from day to day? Alternatively, are longing for ex-partners and attempted relationship renewal effective strategies for alleviating concerns about being single? Hierarchical linear models were used to treat the multilevel data of diary days nested within individuals. In order to test the direction of effects, we conducted lagged-day analyses where changes in an outcome from one day to the next were predicted by the previous day's value of a predictor. For this analysis, data were excluded for skipped days, such that the results reflect changes from the previous day, and not simply the most recent participant report.

The first model tested emotional attachment to the ex-partner as the dependent variable and included within-person measures of today's fear of being single (with a random slope), yesterday's emotional attachment to the ex-partner, and yesterday's fear of being single at Level 1.<sup>3</sup> These predictors were all group-mean centered. To distinguish the between-person effects of fear of being single from the within-person effects, we also included an aggregate measure of daily fear of being single responses (grand-mean centered) as a between-person predictor at Level 2 (Bolger & Laurenceau, 2013; Raudenbush, Bryk, Cheong, Congdon, & du Toit, 2011; Zhang, Zyphur, & Preacher, 2009). Finally, we also controlled for trait anxious attachment (grand-mean centered) and breakup initiator status (grand-mean centered) at Level 2. Unstandardized coefficients are presented. Results of the full model are presented in Table 3. Confirming our hypothesis, this analysis revealed a significant daily, within-person effect of fear of being single, suggesting that on days when individuals were higher in fear of being single (than their own average over the course of the 27-day study), they were also higher in emotional attachment to their ex-partner. Furthermore, yesterday's fear of being single was associated with an increase in emotional attachment to the ex-partner from one day

to the next, above and beyond the other predictors in the model. These results suggest that experiencing stronger fear of being single yesterday predicts feeling more emotionally attached to the ex-partner today.

A similar analysis was conducted with reported attempts to renew the relationship as the dependent variable (see Table 3). A binomial distribution was applied in order to represent the dependent variable as dichotomous (1 = yes, 0 = no). This within- and lagged-day model included today's fear of being single (group-mean centered), the previous day's attempt to renew the relationship (effect coded as -1 = no, 1 = yes), and the previous day's fear of being single (group-mean centered), while again controlling for between-person fear of being single, anxious attachment, and breakup initiator status (see Table 4).<sup>4</sup> This analysis revealed a marginally significant effect of fear of being single within day, suggesting that on days when individuals were higher than their average in fear of being single, they were more likely to attempt to renew the relationship with their ex-partner. Furthermore, above and beyond the other predictors in the model, yesterday's fear of being single predicted an increased likelihood of trying to get back together with the ex-partner. Therefore, experiencing stronger fear of being single yesterday predicts trying to renew the relationship with an ex-partner today.

Taken together, these within-day results replicate and extend the cross-sectional results from Study 1. On days when people felt stronger than their average fear of being single, they also felt greater emotional attachment to their ex-partner and were more likely to try to renew the ended relationship that day. Furthermore, lagged-day analyses provided support for the directionality of the association between fear of being single and longing for ex-partners. Fear of being single led to increases in emotional attachment to ex-partners and increased attempts to renew the relationship from one day to the next.

**Table 4** Study 2: Within- and Lagged-Day Analyses of Attempt to Renew the Relationship and Fear of Being Single

	Attempt to Renew Relationship				Fear of Being Single		
	<i>b</i> (SE)	Odds Ratio	<i>p</i>	95% CI	<i>b</i> (SE)	<i>p</i>	95% CI
Level 1 (within person)							
Intercept	−6.01 (.44)	.002	< .001	[−6.874, −5.148]	2.63 (.12)	< .001	[2.397, 2.872]
Today's fear of being single	.03 (.14)	1.29	.08	[−.029, .530]	—	—	—
Today's attempt to renew relationship	—	—	—	—	.06 (.07)	.40	[−.076, .192]
Yesterday's attempt to renew relationship	.51 (.20)	1.66	< .001	[.285, .730]	.02 (.06)	.76	[−.100, .137]
Yesterday's fear of being single	.74 (.16)	2.09	< .001	[.415, 1.056]	.41 (.02)	< .001	[.365, .461]
Level 2 (between person)							
Fear of being single	.44 (.45)	1.56	.33	[−.441, 1.327]	—	—	—
Daily attempts to renew relationship (aggregate)	—	—	—	—	1.09 (.83)	.19	[−.557, 2.739]
Anxious attachment	.11 (.59)	1.12	.85	[−1.049, 1.270]	.60 (.12)	< .001	[.360, .839]
Breakup initiator	−.27 (.50)	.77	.59	[−1.253, .717]	.06 (.11)	.59	[−.156, .271]
Random Effects							
Residual					.30 (.01)	< .001	[.282, .328]
Diagonal:	.14 (.005)	—	< .001	[.126, .146]	—	—	—
Rho:	.02 (.06)	—	.69	[−.085, .129]	—	—	—
Intercept	7.84 (1.62)	—	< .001	[5.232, 11.760]	.83 (.12)	< .001	[.620, 1.099]

### **Within-Day and Lagged-Day Effects of Emotional Attachment to Ex-Partners and Renewal Attempts.**

We next tested whether experiencing emotional attachment to the ex-partner or attempting to renew the relationship one day affected subsequent fears about being single. This analysis could elucidate possible motivations for pursuing ex-partners. In other words, if emotional attachment to and pursuit of ex-partners are effective at alleviating concerns about being single, this may help us to understand why—as demonstrated above—those who fear being single engage in these emotional and behavioral responses.

We first tested whether yesterday's emotional attachment to an ex-partner predicted change in fear of being single. This analysis was similar to the one above, except that in this model the previous day's emotional attachment to the ex-partner was given a random slope, and between-person emotional attachment to the ex-partner (grand-mean centered) was included at Level 2 instead of between-person fear of being single (Raudenbush et al., 2011; Zhang et al., 2009). As can be seen in Table 3, this analysis revealed that yesterday's emotional attachment to the ex-partner was not associated with a significant change in fear of being single from one day to the next. Therefore, experiencing greater emotional attachment to the ex-partner yesterday does not predict fear of being single today.

Finally, we tested whether there were changes in fear of being single based on a previous day's attempt to renew the relationship with the ex-partner (effect coded), accounting for the between-person aggregate of daily attempts to renew the relationship with the ex-partner (represented as a proportion and grand-mean centered). As seen in Table 4, this analysis revealed that yesterday's attempt to renew the relationship with the ex-partner did not predict change in fear of being single from one day to the next. Therefore, attempting to renew the relationship with an ex-partner yesterday does not predict fear of being single today.<sup>5</sup>

It appears, therefore, that an increase in emotional attachment to the ex-partner and attempts to renew the relationship are not effective strategies for reducing concerns about being single. These emotional and behavioral responses also did not intensify such fears, but rather seemed to have little to no effect on concerns about singlehood.

## **GENERAL DISCUSSION**

The results of the present research demonstrate that fears of not having a relationship play an important role in people's feelings and behaviors in the wake of a relationship breakup. Study 1 confirmed that fear of being single predicted greater feelings of love and longing for ex-partners. This was true regardless of who initiated the breakup or how long ago the breakup had occurred, and could not be accounted for by anxious attachment. These findings were replicated and extended in Study 2, which used a unique longitudinal daily experience method to study people in the immediate wake of a breakup. These data revealed that people generally experienced greater fear of being single after going through a breakup than when the relationship was intact. Furthermore, on days when people reported stronger fears of being single, they also felt greater longing for ex-partners and were more likely to try to renew ended relationships. Importantly, lagged-day analyses revealed that fear of being single was associated with increased longing for an ex-partner and increased attempts to renew the relationship from one day to the next, but the reverse was not true. These data are consistent with the notion that fear of being single leads people to cling more tightly to feelings for ex-partners and to act upon these feelings. However, such emotional and behavioral pursuits of ex-partners

are not effective strategies for assuaging concerns about being single.

An interesting implication of these findings is that continued longing for ex-partners may be more about the search for *any* relationship rather than for a relationship with the ex-partner *per se*. After a breakup, it may *feel* as though the fixation is on the specific ex-partner, but to the extent that these feelings are driven by fears of being single in general, the ex may simply be the most salient exemplar of a way to soothe fears of being single. Indeed, past research on fear of being single has demonstrated that those who fear being single unselectively pursue romantic partners by expressing romantic interest in lower-quality dating prospects and desiring to stay in dissatisfying relationships (Spielmann et al., 2013). This suggests that future research on attachment to ex-partners would benefit from distinguishing between individuals who primarily wish to approach their ex versus individuals who wish to avoid being single (e.g., Gable & Impett, 2012). To the extent that attachments to ex-partners reflect a general desire for romantic connection, this can help explain why a new relationship, or even optimism about finding a new partner, can help facilitate the romantic detachment process (Brumbaugh & Fraley, 2015; Spielmann et al., 2009).

A novel finding of the present research is the discovery that fear of being single fluctuates during the breakup recovery process. We found in Study 2, for instance, that people tended to report heightened fear of being single following a breakup experience, regardless of breakup initiator status. Furthermore, on a longitudinal basis, a variance components analysis in Study 2 revealed that while nearly three-quarters of the variance in fear of being single was accounted for by between-person differences, reflecting that fear of being single certainly can be characterized as a trait individual difference, one-quarter of the variance was accounted for by within-person differences. Therefore, although fear of being single has previously been conceptualized at a trait level (Spielmann et al., 2013), there is a great deal of predictive power at the state level as well. It is likely that, following similar processes that have been outlined for other trait personality processes, such as the Big Five personality traits or attachment style prototypes, as well as social sensitivities such as rejection sensitivity and loneliness, there may be underlying inclinations or patterns of information processing from which individuals fluctuate to some degree from day to day or context to context (e.g., Fleeson, 2001; Fraley, 2002; Gable & Reis, 1999; La Guardia, Ryan, Couchman, & Deci, 2000; London, Downey, Bonica, & Paltin, 2007; Marston, Hare, & Allen, 2010; Reis, Sheldon, Gable, Roscoe, & Ryan, 2000). Better understanding the factors contributing to daily fluctuations in fear of being single may shed light on more adaptive breakup recovery processes. Furthermore, daily fluctuation in fear of being single highlights that fear of being single may be amenable to experimental manipulation. To the extent that most people experience varying degrees of anxiety and security about being single, it may be possible to situationally prime such emotional experiences. Future research would benefit from developing paradigms aimed at manipulating feelings about being single to

better understand the causal role of such fears in relational dynamics.

Overall, the present research demonstrates that fear of being single is an important, unique predictor of romantic outcomes, particularly during the romantic detachment process. Specifically, above and beyond the effects of more general relationship insecurities such as anxious attachment, fear of being single promotes emotional attachment and behavioral pursuit of ex-partners on a daily basis following a breakup. This research highlights that by focusing primarily on motivations to avoid the threats stemming from within people's relationships, the field of close relationships has been overlooking an important motivational factor of avoiding threats stemming from not having a relationship. Therefore, the field would benefit from an increased focus on how people are motivated by concerns about not being in a relationship, and from better understanding this as a motivating factor during breakup recovery and the dynamics of romantic regulation more generally.

## Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: Preparation of this article was supported by Doctoral Fellowships and Insight Grants from the Social Sciences and Humanities Research Council of Canada.

## Notes

1. In the multiple regression, emotional attachment to ex-partners was negatively predicted by time passed since the breakup,  $\beta = -.13$ ,  $p = .053$ ,  $B = -.006$ , 95%  $CI_B$   $[-.011, .000]$ , and breakup initiator status,  $\beta = -.38$ ,  $p < .001$ ,  $B = -.33$ , 95%  $CI_B$   $[-.442, -.217]$ , but not anxious attachment,  $\beta = -.05$ ,  $p = .53$ ,  $B = -.07$ , 95%  $CI_B$   $[-.293, .150]$ .
2. Breakup initiator status was also assessed on a continuous scale in the weekly email regarding relationship status. However, because there were many more missing data points in the email responses (18/117) compared to the breakup survey (2/117), we opted to include the measure from the breakup survey in analyses in order to increase power. It is important to note, however, that the two assessments of breakup initiator status were highly correlated at  $r = .86$ .
3. Constraining today's within-person fear of being single to a fixed slope produced a misspecified model, according to diagnostics put forth by Snijders and Bosker (1994).
4. Random slopes were not included in models of renewal attempts due to the binomial distribution of the dependent variable.



5. We also tested whether breakup initiator status moderated within- and lagged-day effects in Study 2, which yielded mixed results. Breakup initiator status did not moderate the effects of within- or lagged-day emotional attachment to the ex-partner on daily fear of being single, or within- or lagged-day relationship renewal attempts on daily fear of being single. However, breakup initiator status did moderate the lagged-day effects of fear of being single on emotional attachment to ex-partners,  $p = .04$ . Simple effects revealed that when the breakup was partner initiated, yesterday's fear of being single predicted an increase in emotional attachment to the ex-partner,  $p = .001$ . However, when the breakup was self-initiated, this effect was not significant,  $p = .99$ . Breakup initiator status did not moderate within-day effects of fear of being single on emotional attachment to ex-partners.

Similarly, there were moderations by breakup initiator for the within-day,  $p = .002$ , and lagged-day effects,  $p = .001$ , of fear of being single on renewal attempts. Simple effects revealed that, counter to the moderation above, yesterday's fear of being single was a stronger predictor of renewal attempts today for those with self-initiated breakups,  $p < .001$ , compared to those with partner-initiated breakups,  $p = .19$ . Furthermore, within-day fear of being single significantly predicted renewal attempts for both self-initiated,  $p = .02$ , and partner-initiated breakups,  $p = .002$ .

## References

- Barbara, A. M., & Dion, K. L. (2000). Breaking up is hard to do, especially for strongly "preoccupied" lovers. *Journal of Loss and Trauma, 5*, 315–342.
- Bolger, N., & Laurenceau, J.-P. (2013). *Intensive longitudinal methods: An introduction to diary and experience sampling research*. New York: Guilford Press.
- Brumbaugh, C. C., & Fraley, R. C. (2015). Too fast, too soon? An empirical investigation into rebound relationships. *Journal of Social and Personal Relationships, 32*, 99–118.
- Campbell, L., Simpson, J. A., Boldry, J., & Kashy, D. A. (2005). Perceptions of conflict and support in romantic relationships: The role of attachment anxiety. *Journal of Personality and Social Psychology, 88*, 510–531.
- Davis, D., Shaver, P. R., & Vernon, M. L. (2003). Physical, emotional, and behavioral reactions to breaking up: The roles of gender, age, emotional involvement, and attachment style. *Personality and Social Psychology Bulletin, 29*, 871–884.
- Eastwick, P. W., Finkel, E. J., Krishnamurti, T., & Loewenstein, G. (2008). Mispredicting distress following romantic breakup: Revealing the time course of the affective forecasting error. *Journal of Experimental Social Psychology, 44*, 800–807.
- Fagundes, C. P. (2012). Getting over you: Contributions of attachment theory for postbreakup emotional adjustment. *Personal Relationships, 19*, 37–50.
- Feeney, J. A., Noller, P., & Hanrahan, M. (1994). Assessing adult attachment. In M. B. Sperling & W. H. Berman (Eds.), *Attachment in adults: Clinical and developmental perspectives* (pp. 128–152). New York: Guilford Press.
- Fleeson, W. (2001). Toward a structure- and process-integrated view of personality: Traits as density distributions of states. *Journal of Personality and Social Psychology, 80*, 1011–1027.
- Fraley, R. C. (2002). Attachment stability from infancy to adulthood: Meta-analysis and dynamic modeling of developmental mechanisms. *Personality and Social Psychology Review, 6*, 123–151.
- Frazier, P. A., & Cook, S. W. (1993). Correlates of distress following heterosexual relationship dissolution. *Journal of Social and Personal Relationships, 10*, 55–67.
- Gable, S. L., & Impett, E. A. (2012). Approach and avoidance motives and close relationships. *Social and Personality Psychology Compass, 6*, 95–108.
- Gable, S. L., & Reis, H. T. (1999). Now and then, them and us, this and that: Studying relationships across time, partner, context, and person. *Personal Relationships, 6*, 415–432.
- Kelley, H. H., & Thibaut, J. W. (1978). *Interpersonal relations: A theory of interdependence*. New York: Wiley.
- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment, and well-being. *Journal of Personality and Social Psychology, 79*, 367–384.
- London, B., Downey, G., Bonica, C., & Paltin, I. (2007). Social causes and consequences of rejection sensitivity. *Journal of Research on Adolescence, 17*, 481–506.
- Maas, C. J. M., & Hox, J. J. (2005). Sufficient sample sizes for multi-level modeling. *Methodology, 1*, 86–92.
- Marston, E. G., Hare, M., & Allen, J. P. (2010). Rejection sensitivity in late adolescence: Social and emotional sequelae. *Journal of Research on Adolescence, 20*, 959–982.
- Meade, A. W., & Craig, S. B. (2012). Identifying careless responses in survey data. *Psychological Methods, 17*, 437–455.
- Mearns, J. (1991). Coping with a breakup: Negative mood regulation expectancies and depression following the end of a romantic relationship. *Journal of Personality and Social Psychology, 60*, 327–334.
- Mikulincer, M., Gillath, O., & Shaver, P. R. (2002). Activation of the attachment system in adulthood: Threat-related primes increase the accessibility of mental representations of attachment figures. *Journal of Personality and Social Psychology, 83*, 881–895.
- Monroe, S. M., Rohde, P., Seeley, J. R., & Lewinsohn, P. M. (1999). Life events and depression in adolescence: Relationship loss as a prospective risk factor for first onset of major depressive disorder. *Journal of Abnormal Psychology, 108*, 606–614.
- Murray, S. L., Holmes, J. G., & Collins, N. C. (2006). Optimizing assurance: The risk regulation system in relationships. *Psychological Bulletin, 132*, 641–666.
- Murray, S. L., Holmes, J. G., MacDonald, G., & Ellsworth, P. C. (1998). Through the looking glass darkly? When self-doubts turn into relationship insecurities. *Journal of Personality and Social Psychology Bulletin, 75*, 1459–1480.
- Murray, S. L., Rose, P., Bellavia, G. M., Holmes, J. G., & Kusche, A. G. (2002). When rejection stings: How self-esteem constrains relationship-enhancement processes. *Journal of Personality and Social Psychology, 83*, 556–573.

- Overall, N. C., Girme, Y. U., Lemay, E. P., Jr., & Hammond, M. D. (2014). Attachment anxiety and reactions to relationship threat: The benefits and costs of inducing guilt in romantic partners. *Journal of Personality and Social Psychology, 106*, 235–256.
- Raudenbush, S., Bryk, A., Cheong, Y. F., Congdon, R., & du Toit, M. (2011). *HLM 7: Hierarchical linear and nonlinear modeling*. Lincolnwood, IL: Scientific Software International.
- Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin, 26*, 419–435.
- Rusbult, C. E., Martz, J. M., & Agnew, C. R. (1998). The investment model: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships, 5*, 357–391.
- Sbarra, D. A. (2006). Predicting the onset of emotional recovery following nonmarital relationship dissolution: Survival analyses of sadness and anger. *Personality and Social Psychology Bulletin, 32*, 298–312.
- Sbarra, D. A., & Emery, R. E. (2005). The emotional sequelae of nonmarital relationship dissolution: Analysis of change and intra-individual variability over time. *Personal Relationships, 12*, 213–232.
- Snijders, T. A. B. (2005). Power and sample size in multilevel modeling. *Encyclopedia of Statistics in Behavioral Science, 3*, 1570–1573.
- Snijders, T. A. B., & Bosker, R. J. (1994). Modeled variance in two-level models. *Sociological Methods and Research, 22*, 342–363.
- Spielmann, S. S., MacDonald, G., Maxwell, J. A., Joel, S., Peragine, D., Muise, A., et al. (2013). Settling for less out of fear of being single. *Journal of Personality and Social Psychology, 105*, 1049–1073.
- Spielmann, S. S., MacDonald, G., & Tackett, J. L. (2012). Social threat, social reward, and regulation of investment in romantic relationships. *Personal Relationships, 19*, 601–622.
- Spielmann, S. S., MacDonald, G., & Wilson, A. E. (2009). On the rebound: Focusing on someone new helps anxiously attached individuals let go of ex-partners. *Personality and Social Psychology Bulletin, 35*, 1382–1394.
- Sprecher, S., Felmlee, D., Metts, S., Fehr, B., & Vanni, D. (1998). Factors associated with distress following the breakup of a close relationship. *Journal of Social and Personal Relationships, 15*, 791–809.
- Wegner, D. M., & Gold, D. B. (1995). Fanning old flames: Emotional and cognitive effects of suppressing thoughts of a past relationship. *Journal of Personality and Social Psychology, 68*, 782–792.
- Wilson, T. D., & Gilbert, D. T. (2005). Affective forecasting: Knowing what to want. *Current Directions in Psychological Science, 14*, 131–134.
- Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods, 12*, 695–719.